

WHAT IS CLAIMED IS:

1. A network system comprising:

a storage device;

a server;

a network switch; and

a unified networking device configured to provide a single-hop

communication path between the storage device and the server, a

single-hop communication path between the storage device and the

network switch, and a single-hop communication path between the

server and the network switch.

2. The network system of claim 1, wherein the unified networking device is further configured to provide a single-hop communication path between the storage device and a router, a single-hop communication path between the server and the router, and a single-hop communication path between the network switch and the router.

3. The network system of claim 1, further comprising a second storage device and the unified networking device is further configured to provide a single-hop communication path between the storage device and the second storage device.

4. The network system of claim 1, wherein the network switch is a load-balancing network switch.

5. The network system of claim 1, wherein the storage device is a Redundant Array of Independent Disks (RAID).

6. The network system of claim 1, wherein the storage device is a Just a Bunch of Disks (JBOD).

7. The network system of claim 1, wherein the storage device is a tape drive.

8. The network system of claim 1, wherein the unified networking device is configured to communicate with a plurality of servers.

9. The network system of claim 1, wherein the unified networking device includes a plurality of line cards each having at least one port capable of transmitting packets, and a switch card configured to communicate with the plurality of line cards across a backplane.

10. The network system of claim 9, wherein the unified networking device includes sixteen line cards each having sixteen ports, and four switch cards, where each switch card is configured to communicate with every other switch card and each line card.

11. The network system of claim 9, wherein each of the plurality of line cards includes a packet processor in communication with the backplane.

12. The network system of claim 11, wherein each packet processor is an application specific integrated circuit (ASIC).

13. The network system of claim 9, wherein the switch card includes at least one flow control application specific integrated circuit (ASIC) and a crossbar switch.

14. A network system comprising:

a storage device;

a server;

a router; and

a unified networking device configured to provide a single-hop

communication path between the storage device and the server, a

single-hop communication path between the storage device and the

router, and a single-hop communication path between the server

and the router.

15. A network system comprising:

a storage device;

a network switch;

a router; and

a unified networking device configured to provide a single-hop

communication path between the storage device and the network

switch, a single-hop communication path between the storage

device and the router, and a single-hop communication path

between the network switch and the router.

16. A network system comprising:

a server;

a network switch;

a router; and

a unified networking device configured to provide a single-hop

communication path between the server and the network switch, a

single-hop communication path between the server and the router,

and a single-hop communication path between the network switch

and the router.

17. A method for system networking, comprising the steps of:  
providing a single-hop communication path between at least two storage devices using a unified networking device;  
providing a single-hop communication path between a storage device and a server using the unified networking device; and  
providing a single-hop communication path between a storage device and a network switch using the unified networking device.
18. The method of claim 17, further comprising the step of providing a single-hop communication path between a storage device and a router using the unified networking device.
19. The method of claim 17, further comprising the step of providing a single-hop communication path between the server and the network switch using the unified networking device.
20. The method of claim 17, further comprising the step of providing a single-hop communication path between the server and a router using the unified networking device.
21. The method of claim 17, wherein the network switch is a load balancing network switch.

22. The method of claim 17, wherein the plurality of storage devices includes a Redundant Array of Independent Disks (RAID).
23. The method of claim 17, wherein the plurality of storage devices includes a Just a Bunch of Disks (JBOD).
24. The method of claim 17, wherein the plurality of storage devices includes a tape drive.
25. The method of claim 17, wherein each single-hop communication path is configured to carry data packets.
26. A system for managing communications in a network comprising:  
means for providing a single-hop communication path among a plurality of storage devices, providing a single-hop communication path between one of the plurality of storage devices and a server, and providing a single-hop communication path between one of the plurality of storage devices and a network switch.
27. The system of claim 26, wherein the means for providing single-hop communication paths provides a single-hop communication path between one of the plurality of storage devices and a router.

28. The system of claim 26, wherein the means for providing single-hop communication paths provides a single-hop communication path between the server and the network switch.

29. The system of claim 26, wherein the means for providing single-hop communication paths provides a single-hop communication path between the server and a router.

30. A unified networking device comprising:

a line card including a plurality of ports, at least one of the plurality of ports being configured to communicate with a storage device, at least one of the plurality of ports being configured to communicate with a server, and at least one of the plurality of ports being configured to communicate with a network switch; and  
a switch card configured to switch data packets and to communicate with the line card through a backplane.

31. The unified networking device of claim 30, wherein at least one of the plurality of ports is configured to communicate with a router.

32. The unified networking device of claim 30 further comprising sixteen line cards and four switch cards.

33. The unified networking device of claim 32, wherein each of the sixteen line cards includes sixteen ports.

34. The unified networking device of claim 32, wherein each of the four switch cards includes at least one flow control application specific integrated circuits (ASICs) and a cross bar switch.

35. The unified networking device of claim 30, wherein the storage device is a Redundant Array of Independent Disks (RAID).

36. The unified networking device of claim 30, wherein the storage device is a Just a Bunch of Disks (JBOD).

37. The unified networking device of claim 30, wherein the storage device is a tape drive.

38. The unified networking device of claim 30, wherein the line card includes at least one packet processor in communication with the backplane.

39. The unified networking device of claim 38, wherein the at least one packet processor is an application specific integrated circuit (ASIC).



40. The unified networking device of claim 30, wherein each of the plurality of ports is configured to send and receive packets.

41. The unified networking device of claim 30, wherein one of the plurality of ports of the line card is configured to receive packets from the storage device, the line card is configured to send the packets via the backplane to the switch card, the switch card is configured to switch the packets via the backplane to the line card, and another one of the plurality of ports of the line card is configured to send the packets to the network switch.

42. The unified networking device of claim 31, wherein one of the plurality of ports of the line card is configured to receive packets from the storage device, the line card is configured to send the packets via the backplane to the switch card, the switch card is configured to switch the packets via the backplane to the line card, and another one of the plurality of ports of the line card is configured to send the packets to the router.

43. The unified networking device of claim 30, wherein one of the plurality of ports of the line card is configured to receive packets from the storage device, the line card is configured to send the packets via the backplane to the switch card, the switch card is configured to switch the packets via the backplane to the line card, and another one of the plurality of ports of the line card is configured to send the packets to a tape drive.

44. A unified networking device comprising:

a line card including a plurality of ports, at least one of the plurality of ports being configured to communicate with a storage device;

a line card including a plurality of ports, at least one of the plurality of ports being configured to communicate with a server;

a line card including a plurality of ports, at least one of the plurality of ports being configured to communicate with a network switch; and

a switch card configured to switch data packets and to communicate with each of the line cards through a backplane.

45. The unified networking device of claim 44, further comprising a line card including a plurality of ports, at least one of the plurality of ports being configured to communicate with a router.

46. A network system comprising:

a storage device;

a server;

a router;

a network switch;

a unified networking device configured to communicate with the storage device, the server, the router, and the network switch; and

a second unified networking device configured to communicate with the storage device, the server, the router, and the network switch, the unified networking device and the second unified networking device further configured to communicate with each other.

47. The network system of claim 46, wherein the unified networking device includes a plurality of line cards each having at least one port capable of transmitting packets, and a switch card configured to communicate with the plurality of line cards across a backplane.

48. The network system of claim 46, wherein the second unified networking device includes a plurality of line cards each having at least one port capable of transmitting packets, and a switch card configured to communicate with the plurality of line cards across a backplane.

